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ABSTRACT

This series of Junior College Resource Reviews focuses on the community college's role in literacy development. After Roger Yarrington's overview of the topic, Robert McCabe and Susan Skidmore consider "The Literacy Crisis and American Education." In light of the changing nature of work and the severe decline in the communication skills of youth, the authors urge a careful examination of the current social environment and a realistic redesign of the educational system. "Literacy and Allied Health Programs," by Robert Parilla, identifies the knowledge and skills necessary for the delivery or support of health care by technicians. Next, Florence Brawer, in "Literacy, Transfer, and Effectiveness: The Community Colleges' Accelerating Mission," reviews research and other literature dealing with issues and approaches to developmental/remedial education, special compensatory programs, attrition and achievement, counseling, evaluation, common problems, and available options. Arthur Cohen then recounts "Ten Criticisms of Developmental Education" and responds to each. Jack Friedlander, in "Coordinating Academic Support Programs with Subject Area Courses," describes successful programs integrating basic skills instruction into the regular curriculum. Finally, Richard Richardson and Elizabeth Fisk, in "Literacy in the Community College," review a study of the use of written language in the classroom and in student services and of administrative priorities and strategies influencing literacy. (AYC)

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JUNIOR COLLEGE RESOURCE REVIEW

Spring 1982

# LITERACY IN COMMUNITY COLLEGES

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by Roger Yarrington

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by Robert H. McCabe and Susan Skidmore

**LITERACY AND ALLIED HEALTH PROGRAMS**
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## Overview

What is the role of the community college in raising the level of literacy in our society? This question is the focus of the series of six Junior College Resource Reviews from the ERIC Clearinghouse for Junior Colleges. The authors include administrators and researchers who have considered the question of literacy from a number of viewpoints. Robert Parilla, president of Montgomery Community College in Maryland, considers the standards of literacy necessary for admission to allied health programs in relation to the open admissions prevalent in most other program areas. Robert McCabe, president of Miami-Dade Community College, reports from a study conducted at Miami-Dade that indicates the lack of literacy rampant at the secondary level. R.C. Richardson, Jr., professor of higher education at the University of Arizona, reports findings, based on a study of an urban multicampus community college district, that students are able to cope with providing bits of information for specific objectives but their literacy breaks down when confronted with the requirement that they combine information in a comprehensive and thoughtful way. Florence Brawer, research director at the Center for the Study of Community Colleges, considers what some community colleges are doing to increase literacy and retention of students. Arthur Cohen, director of the ERIC Clearinghouse for Junior Colleges, recounts ten criticisms of developmental education at the community college level and responds to each. Jack Friedlander, research associate at the Center for the Study of Community Colleges (Los Angeles) addresses the question of literacy by suggesting the coordination of academic support programs with subject area courses.

### America and Literacy

Literacy is a prerequisite for full participation in American life. The concept of citizenship in this democracy is that every citizen has a right to speak and vote. The ability to exercise individual rights intelligently is necessary for the common good, since good government rests on the people's judgment. The larger the number of people who can communicate well and make informed decisions, the better the democracy. Therefore, it is in the public interest to achieve the highest possible adult literacy level.

It is this basic line of reasoning that has led to tax-supported, tuition-free public schools and to publicly-supported colleges and public tuition assistance programs. A judgment left to others is whether or not the level of political discourse emanating from candidates and advocacy groups has been significantly raised as a result. But invaluable and necessary is the ability of most citizens to read newspapers and books, to view public affairs and television programming with some discernment, to communicate their views so that they can be understood and debated, and to decide rationally who and what they will support. So, when we see the data on how many adults in our country cannot read, write, and compute well, we see not only a loss in individual human terms but also in the collective sense. If one citizen is not literate, our chosen form of government works that much less.

The same democratic ideal that fosters notions of a nation of intelligent voters abhors any concept of an aristocracy--lineal or otherwise. A problem that accompanies the technical and scientific wonders of today and tomorrow is how to avoid a two-class society: those who can invent, maintain, manage, and use the technology, and those who cannot grasp its workings or uses and, therefore, benefit less. This is clearly a dangerous possibility that is upon us and can easily produce a society of those in control and those controlled.

Connected to these concerns is the uneasy feeling that every person who fails to gain the basic skills for meaningful participation in the development and understanding of new ideas is a lost, possibly valuable resource.

Literacy and the Community College

The basic educational policy issues are these: who will take responsibility for raising literacy levels, to whom will the resources be allocated, and what is the rationale for the investment. The queue to take responsibility for the problem has not been forming very fast. Few people or institutions want to get in line. Community colleges have found themselves in this line, in some cases, without much forethought, when their modest remedial services grew into large, adult literacy programs.

Whether community colleges should play a leadership role, a central coordinating role, or a partnership role--or all of the above--is likely to be answered in different ways in different states, depending on local history, tradition, and who has what experience and resources. In almost every case, however, it is likely that community colleges will have an important role of some kind. Their focus on teaching, their connections with local social service agencies, their experience in offering a wide variety of services to lifelong learners with many different educational needs, all serve to direct the adult literacy assignment to them.

Those with a view that literacy is a fundamental human right need to meet the obligation to develop instructional strategies for teaching literacy skills and to act as responsible advocates to encourage a higher priority for an investment in literacy.

Roger Yarrington is vice president for research and development at the American Association for Community and Junior Colleges, Washington D.C.

# The Literacy Crisis and American Education

There is a crisis in literacy in America. At the same time that the academic competencies of youth continue to decline, the level of those competencies needed for most employment continues to escalate. This has created a growing literacy gap between the capabilities of our young people and the requirements for employment. Nowhere is the problem more dramatically evident than in Liberty City in Miami, Florida. Thousands of residents of this deteriorating and depressed community are young, black, and unemployed. They pass much of their time hanging out on street corners, excluded from productive society, and harboring deep feelings of hopelessness and despair. Yet Miami is a city with a booming economy based on international tourism, trade, and banking. Newspapers are filled with advertisements for positions in such fields as office careers, data processing, electronics, health care, and accounting. Some employers are actually paying bounties to employees who recruit a "qualified" new employee. To a substantial degree, the difference between being vigorously recruited and remaining unemployed is accounted for by lack of academic skills. Virtually all available jobs require a strong academic foundation, particularly in reading and writing. Among the large segments of our population that remain unemployed and unemployable, these skills are woefully deficient. Economic and social frustrations result from such patterns of unemployment and form the foundation for unacceptable poverty and crime. In addition, the nation's industry is being seriously handicapped in international trade by lack of qualified manpower. We are clearly wasting our most precious resource--our people.

Parallels to Liberty City exist across the face of America--it is a frightening and all too familiar scene. Culturally and economically disadvantaged people, trapped by poverty and lack of education, have become increasingly frustrated by their failure to share in the benefits and rewards of American life. Many

of the major problems facing our cities and the nation as a whole spring from this collective inability of individuals to participate as productive citizens in the society. How can such a condition exist in the United States of 1982 after years of substantial investment in social programs and education? What went wrong with the earlier hopes and dreams for progress and social equality that formed the foundation of such large-scale investments? One important answer to the problem is clear: when viewed in the light of present day American society, all levels of the educational system have failed significantly to adjust as societal needs changed--the evolutionary process in education seems to have become "stuck" in the 1960s.

Far-reaching societal changes took place during the late 1960s: the nation struggled to overcome the consequences of a history of racial discrimination and to provide equality and civil rights for all Americans. Individuals from previously disenfranchised groups raised their aspirations significantly, and this glimmer of hope caused demands for immediate equality. In response, the educational system tried to offer expanded opportunity to all. Institutions placed emphasis on removing barriers and on assisting individuals to negotiate their way through the system.

The elementary and secondary schools struggled with integration and conflict. There was to be an instant "catching up" in academic progress for minorities. The public expected a radically different type of education and demanded an expanded curriculum to include many worthy and defensible concerns such as nutrition, environment, driver education, sex education, woman's issues, minority issues, ethics, and self-development. The new mistrust of authority that grew out of the Vietnam era, the demands for greater individual freedom, less parental control, expectations that everyone must succeed, and disruption and tensions in the nation all contributed to the severe erosion of teacher authority in the classroom.

These same forces extended into higher education. Expansion and access were key words as new institutions, led by community colleges, emerged to meet the demands of the post-World War II baby boom. As a reflection of the conditions of the larger society, individuals within colleges demanded more rights, more opportunity to develop their own directions, and greater freedom from convention. Much was said about the individual's right to fail; self-advisement became a common practice; and often all courses, regardless of content, were counted toward graduation. Students objected to placement in remedial courses or other perceived contraints; and procedures considered to be barriers to admission and registration, including post-admissions testing, were removed. The focus was on assisting students to gain certification and to achieve a sense of immediate gratification. Many students progressed through the entire system from kindergarten to graduate school without being required to meet educational standards of earlier years.

This rapid evolution in education occurred to correct a system that seemed geared to inhibit minorities and the disadvantaged from advancement. Many viewed the educational system not as providing a ladder to success but rather as a mechanism for discriminatory screening used to prevent minority and disadvantaged individuals from acquiring the credentials necessary for advancement. In retrospect, it is easy to see that there was overreaction to these valid concerns in the nation and in education; yet, some good was achieved nonetheless. Greater numbers of persons completed high school and many Americans, previously excluded from higher education, were among those who became credentialed and thus able to compete for professional positions for the first time. However, simply making it easier to gain a diploma or degree was not the answer. We still remain a very long way from equal opportunity for all, and credentials without competence will not suffice. The approaches of the 1960s are not the answer today and, as times have continued to change dramatically in recent years, the educational system has seriously fallen behind in adjusting its programs to meet current needs.

In the American society of the 1980s we see greater and greater emphasis on personal drive and personal achievement; remaining is broad disillusionment, not with the goals, but with the efficacy of some of the social programs of earlier decades. While the access revolution was surprisingly successful in widening opportunity to include new populations, it was also a major contributor to the decline of standards. Institutions were often more successful at enrolling new populations than in serving them effectively. The evolutionary process now gaining momentum in education is reflective of a pervasive public attitude that places major emphasis on quality, rather than access. Boyer and Hechinger (1981) report:

> Today we hear a rising chorus of complaints about the quality of schooling. We see a national rush to reduce investment in education... This flagging commitment reflects frustration over falling test scores, conflicts over national priorities, taxpayer revolts, and recognition that education is not a panacea to cure every social ill. (p. 24)

Rightfully, the American people are demanding reform now. A report, The Need for Quality (1981), presented by the Task Force on Higher Education and the Schools to the Southern Regional Education Board states:

> An imperative need confronts the schools and higher education to work together to improve the quality of education at all levels. Current movements to test pupils at various grades, to test prospective teachers, and to require exit examinations as a condition for college graduation reflect a growing

> public belief that educational quality is unacceptably low. (p. 1)

A well-documented decline in the academic skills of Americans is plaguing all levels of education from kindergarten through graduate school; even at Harvard University large numbers of doctoral students require courses in writing. Scores on the College Board examination have declined for fourteen consecutive years, and the National Assessment of Educational Progress reports that in the 1970s the number of seventeen-year-olds able to satisfactorily interpret reading matter declined 20 percent. In addition, academic skill for urban residents lags one year behind the norm and minorities with academic skills below minimum levels are doubly represented. Friedlander and Grede (1981) estimated that "over 50 percent of all students entering community colleges read below the eighth-grade level, and 20 to 35 percent at or below the fourth-grade level." At Miami-Dade Community College, two-thirds of all entering students tested are deficient in either reading, writing, or mathematics; more than 90 percent of black students are deficient in one skill, and more than two-thirds are deficient in all three essential skills.

Coordinate with the decline in academic development, dramatic shifts have occurred in the nature of work in America. Prior to World War II, unskilled jobs accounted for 80 percent of employment; today this is less than 20 percent. Further, the information technology explosion is dramatically increasing the level of communications skills necessary for employment. In 1950, 17 percent of all jobs involved information processing; today 54 percent of all jobs in this country require information processing. We suddenly recognize that the most important vocational skills are the academic skills. A recent study, Reading, Thinking, and Writing (1981) states:

> In a world overloaded with information, both a business and a personal advantage will go to those individuals who can sort the wheat from the chaff, the important information from the trivial. Skills in reducing data, interpreting it, packaging it effectively, documenting decisions, explaining complex matter in simple terms, and persuading are already highly prized in business, education, and the military, and will become more so as the information explosion continues. (p. 5)

Employers nationwide consistently report that those seeking employment have inadequate communications skills. William Klein of Florida Power and Light states that, "Even entry level jobs will require greater ability to communicate," and, further, that only 6 to 7 percent of those applying for employment at Florida Power and Light have the basic skills needed, with emphasis on the ability to read and to write (Klein, 1981). Clearly, the standard of skills needed to be functionally literate--that is, employable and able to participate effectively in the society--is rising rapidly. The level of academic skill acceptable ten years ago simply will not suffice today.

One recent societal change has important implications for the high school curriculum. Today, a majority of high school graduates go on to postsecondary education, and this further education is essential for most people to become employable. National data show that within seven years of high school graduation, 64.8 percent have attended college, and when technical and trade schools are added this figure is nearly 75 percent. The Florida Department of Education reports that 47.5 percent of the Florida high school graduates go on directly to postsecondary education; in Dade County over 50 percent of the high school graduates attend Miami-Dade Community College within five years of graduation. Ernest Boyer and Fred Hechinger, in Higher Learning In The Nation's Service (1981), sum up the situation well:

> We are underscoring the fact that the workplace is changing dramatically, that traditional notions about pre-work preparation are becoming obsolete, and that more education will be required to meet the nation's diverse social and economic needs. (p. 28) It is our conclusion that, from now on, almost all young people will, at some time in their lives, need some form of postsecondary education if they are to remain economically productive and socially functional in a world whose tasks and tools are becoming increasingly complex. (p. 2930)

The combined effect of the changing nature of work in America, along with a severe decline in communications skills of youth, have resulted in a societal dilemma so serious that it can fairly be called a crisis. Quite simply, the increased requirement for academic skills for employability, combined with the decline in these skills among young Americans, leaves literally millions of Americans inadequately prepared, unable to gain employment, and thus unable to sustain themselves as productive members of the society. As Yarrington (1981) states, "There is the unhappy vision of a dependent class of persons who, through lack of literate skills, become a dependent drag on those who are literate and thus more productive in a complex world."

How better could education help our country than by assuring that no new legions of young people are added to the street corners of our Liberty Cities? Nothing could be done to improve our deprived communities more than to substantially increase the level of literacy, thus opening up opportunities for existing jobs. Helping these individuals into good employment would provide them with the

economic resources to help improve their neighborhoods. This will not happen through outside agencies.

Those who advocate increased standards for higher education by limiting admission make a serious mistake. While higher admission standards for selected universities might well be productive, retaining the open-door concept for the community colleges is more essential than ever. The nation cannot afford to give up on those who have academic skill deficiencies. America needs more, rather than fewer, well-educated individuals. As Dan Morgan reported in the Washington Post (August 7, 1981), "The Business Roundtable, representing a blue chip roster of corporate America, has called for a national policy to deal with a 'growing imbalance between the supply of workers and the skills demanded.'" Only if this imbalance is diminished will we be able to improve the ability of people to build their own communities by strengthening their economic bases and to permit this nation to continue competing successfully with other nations of the world.

It is time to carefully examine the current environment and to realistically redesign the educational system to focus on our crisis of literacy and to aid in improving our society. Important changes are required in all segments of the system. According to Boyer and Hechinger (1981, p. 30), "The conclusion is clear. Higher learning must redouble its efforts to meet more effectively the needs of those who have been inadequately served by education in the past." The community colleges must maintain their commitment to the open door and must remain the pivotal institutions in salvaging opportunity for large numbers of Americans whose academic and occupational skills have not prepared them to participate in society nor to achieve any measure of success. At the same time, community colleges must place emphasis on achievement and hold to high expectations for program completion--in other words, the goal must be excellence for everyone. Ultimately, no one benefits when individuals simply pass through a program and become certified while lacking the competencies indicated by those certifications.

While community colleges will concentrate on improving deficiencies in reading, writing, and mathematics for many years to come, substantive change must also occur in the secondary schools so that these problems are addressed earlier. A recent study conducted at Miami-Dade Community College clearly illustrates the need for reshaping the secondary school curriculum. High school graduates from public and private schools, including Dade County's, were tested and placed in developmental courses. Overall, these students did not achieve substantial academic training or experience in high school. Results of the study show that:

1. Less than one student in six reported that his/her high school work required more than 50 pages of reading per week;
2. Less than half reported using the library more than five times while in high school;
3. Just less than half agreed with the statement, "I hardly ever had to do my homework at home";
4. Less than half reported taking more than five essay tests in high school;
5. More than half stated that they did not "study a lot";
6. Two out of five reported that they intentionally selected easy courses;
7. As a group, less than half of their work was in standard high school courses.

When asked what they would do if they could begin high school again, these students delivered a clear message, identifying the essential high school curriculum skill areas:

1. More than half of the students would take more science courses;
2. More than 80 percent would take more mathematics courses;
3. More than three-quarters would take more English courses;
4. More than three-quarters would take more English courses that require more writing;
5. More than three-quarters would take courses that require more reading;
6. More than 80 percent would read more.

A striking agreement in all groups was that during their high school years the students were unaware of the expectations of postsecondary institutions. It is imperative that schools respond to this situation with a reevaluation of educational policies and share such information with students as they begin high school. In addition, the public must communicate to young people the importance of academic achievement in fulfilling their goals and must strongly support teachers as they raise expectations of students. Parents must insist on homework, provide a location conducive to this task, and help develop and maintain appropriate homework schedules.

High schools must provide essential academic training for all students by raising standards and increasing the share of the

curriculum assigned to academic subjects. The first priority must be to build a strong base of academic competence before permitting students to significantly diversify their curricula. The curriculum of every student must include substantial requirements in reading, writing, and mathematics. Those who begin high school with deficient academic skills should not be placed in a curriculum that is less academic, as this only contributes to the functional crippling of the individual. Rather, these students should be placed in programs similar to the developmental programs currently offered in community colleges. It makes no sense for students to ignore deficiencies during high school and later to be faced with developmental program course requirements upon admission to college. For many it is too late at the time of college admission to achieve success in overcoming substantial academic deficiencies. The development of academic skills should be addressed early and with persistence throughout all levels of the educational system.

A prototype for the cooperative planning so urgently required in American education has been initiated by the College Entrance Examination Board in its Project EQuality (1981):

> In its simplest terms, Project EQuality is an effort to enlist schools and colleges in a concerted cooperative campaign to strengthen the quality of secondary education and at the same time to carry further the hard-won gains of equal opportunity made over the past 20 years. (p. 5) The College Board believes the need is for a cooperative search by schools and colleges together for solutions to improve both academic preparation for college and access to postsecondary opportunities for all Americans. Project EQuality is designed to provide a framework for such an effort (p. 7).

It is essential to this nation that the schools and colleges prepare individuals to participate fully in the society and to become employable, productive, and contributing citizens. We must work together to institute needed reforms and to uphold the combined goals of providing both equity and excellence in the American educational system.

Robert H. McCabe is president of Miami Dade Community College, Florida. Susan Skidmore is assistant to the president at Miami Dade.

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# Literacy and Allied Health Programs

This paper addresses the issue of basic literacy necessary for admission to and success in allied health programs. The working definition of literacy includes not only fundamental reading, writing, and counting, but also the knowledge and skills necessary to function effectively as a practicing technician in the delivery of health care or in the support of delivery of health care.

For approximately three decades, community colleges have been offering programs designed to train technicians for the delivery of health care services. A large number of health programs currently exist to train people to assist in medical and dental laboratory technology, dental hygiene, surgery, physical therapy, radiology, nursing (both RN and LPN), medical records technology, and dietary technology as well as to assist physicians and dentists. Allied health programs tend to be among the most visible community college programs and are frequently cited as good examples of a college's growth and success. Moreover, considerable attention is received by allied health programs because they

- are one of the few community college programs to maintain selective admissions requirements and to restrict the number of students admitted;
- establish well-defined curricula that are similar throughout the country;
- demand relatively strict standards of student progress and achievement for the student to remain in the program;
- usually adhere to specific accreditation requirements promulgated by national associations or to standards for program approval established by the states;
- often lead to licensure or certification through a state or national examination;
- result in well-defined job opportunities in the health careers and in a work setting familiar to the general public.

Community colleges are open-door institutions, admitting students who are generally representative of the socioeconomic cross section of the community. These students display a wide range of abilities and preparation and are generally representative of the ethnicity of the parent community (Clark, 1960; Trent and Medsker, 1968; Parilla, 1973; Cohen, 1980). Community colleges have traditionally recognized this diversity and have provided programs to improve student chances of success. These programs include outreach, diagnostic and placement testing, counseling and tutoring (Gold, 1981), adult basic education, remedial and pre-transfer offerings, adaptions for handicapped students (Lombardi, 1979), and for bilingual students (O'Hara, 1980). Allied health programs at community colleges face additional challenges because these programs admit students selectively within an open-admissions environment. Many community college students desire to matriculate in health programs because of the high visibility of the programs and as a means to improve their socioeconomic standing (Holstrom and others, 1976). Many students, although working to improve their basic English and mathematics literacy, do not meet health program standards because the programs frequently require for admission demonstrated literacy in English, mathematics, and in other areas such as the natural sciences (Leiken and Cunningham, 1980).

## Accreditation Guidelines

Most health programs are affiliated with national organizations that establish criteria for and conduct institutional visits to accredit the health programs. Educators often perceive the importance of accrediting criteria differently (Schermerhorn, 1980). A review of criteria to determine whether or not these program accrediting organizations address academic requirements other than the specific health program courses reveals that the evaluation process includes graduation and program requirements of individual institutions, although the accrediting organization does not usually prescribe specific courses. The National League for Nursing (NLN, 1967) and the National Accrediting Agency for Clinical Laboratory Sciences (1979) and other accrediting groups require that the sponsoring institution develop admissions criteria and that the program of instruction be a comprehensive one including general education, related subject matter, and the graduation requirements of the parent institution. NLN also requires that the faculty be responsible for "the development of standards for the admission, progression, and graduation of students," that students have access to "accurately and clearly stated information" about program and graduation requirements, and that learning experiences should be designed to develop knowledge concepts, understandings, skills, and facts pertaining to cultural diversity (NLN, 1967, p. 12-13). These accrediting requirements show that the faculty of a parent institution have substantial responsibility for the program design and that students should be responsible for self-direction and should perform capably in a culturally diverse work setting. These kinds of requirements not only assume that the students substantial proficiency in basic English and mathematics skills but also assume that the students can accept responsibility and be sensitive to social differences (Brawer, 1978). The MLT-AD Survey Guide has similar requirements regarding general education and inte-

grating general education and laboratory segments but adds another requirement: "A library containing current reference materials, texts, and scientific periodicals pertaining to laboratory medicine must be readily accessible to students and faculty" (National Accrediting Agency, 1979, p. 7). This library requirement appears in the guidelines of other health programs accrediting agencies as well and suggests the additional concept that literacy includes the ability to use the library as a reference and research tool. Such requirements suggest that health program graduates are not completely literate in the field unless they can use a library, particularly within their field of specialty.

College Catalog Review

Allied health program accrediting standards do not specify admission and graduation requirements for individual colleges. A review of community college catalogs shows some uniformity of requirements for the completion of an associate degree. These requirements include successful completion of a year of English composition or writing and some proficiency in reading. The required year of English may take a variety of forms; some colleges may substitute a course in speech for a course in English; the amount of literature and theme writing varies from college to college. Colleges also require completion of a mathematics proficiency course or acceptable grades in high school mathematics courses or on mathematics placement tests. In addition, colleges require some course work in the humanities, the social sciences, and the natural sciences to meet the associate degree requirements. These distributive requirements suggest that both the colleges and the allied health accrediting agencies recognize the need for an educational program to include more than health-content courses if it is to address a broad educational foundation in addition to the specific skills of the career area (Agriesti, 1980).

Revieiwing the admissions requirement for various health programs establishes that students must have basic reading, writing, and computational skills but also must have an understanding of biology and chemistry fundamentals. A requirement of Triton College health program applicants (Triton College Catalog, 1981) is completion, with a grade of C or better, of one year of high school algebra, one year of high school chemistry, and one year of high school biology, or appropriate college-level courses. The science courses must include related laboratory work (Los Angeles Harbor College Catalog, 1978). It is also common to stipulate that the science courses must have been completed within five years previous to application (Highland Community College Catalog, 1977). Some health programs have science and/or mathematics requirements regardless of previous course completion or proficiency. The requirement may be a mathematics course related to the specific program. For instance, medical mathematics courses frequently are required for students to learn processes for calculating drug dosage and to learn the chemistry of solutions and foods. Some colleges, such as Essex Community College (Essex Community College Catalog, 1980) require the successful completion of one course in computer science. This requirement recognizes the fact that office procedures, laboratory procedures, and clinical procedures are becoming more and more dependent upon computer technology. Health technicians may have to work increasingly with electronics, in general, and with computers, in particular.

Most health programs also require satisfactory academic progress once the student is admiitted. Progress is usually interpreted as maintaining an average of C or better for all courses including specific career courses. Some institutions such as De Anza College (De Anza College Catalog, 1978) have a mandatory review of a student's standing if the student receives a grade of less than C. It is not uncommon for a student to be dismissed from a health program if satisfactory progress is not maintained or if one grade less than C is received. The review of college catalogs reveals that students must have a basic command of reading, writing, mathematics, and the sciences in order to be admitted, and certainly in order to progress successfully through and compiete a health program.

Related Studies

The few studies of the successful nursing student bear this out. (It should be noted that few studies of successful allied health students other than nursing students have been made.) A study conducted in Ontario, Canada, to assist the colleges of applied arts and technology in selecting the most promising students for the two-year nursing program concluded that the number of pure and applied science courses completed successfully was the best predictor of eventual success in nursing; the grade average in high school English and mathematics was the second best predictor (Weinstein, Brown, and Wahlstrom, 1980). Ferguson (1979, p. 8) found that speed in reading, comprehension, vocabulary, and test item vocabulary is a fairly reliable predictor for success and that "reading skills for the nursing student need to be near the twelfth grade level for success to be anticipated" (p. 12). In a study completed at Westark Community College, Efurd (1978) found that nursing students with the highest reading levels achieve high grades and that vocabulary was more important than reading rate as a predictor of academic success.

A study completed in Hawaii emphasizes that English and mathematics skills are usually required for admission to the health programs (Selected Characteristics of Fall 1980 Entering Students, 1980). A comparison of English and mathematics skills of the students entering the health program with those entering the liberal arts, business, food service and hotel operations, public services, as well as with a number of unclassified students, shows the reading skills of the entering health students are

near the twelfth-grade level and the mathematics skills are at the elementary algebra level. The skill levels for the entering health service students are higher than those of the other entering students. Another study concludes that strict academic criteria, frequent student appraisals, and individualized approaches to student needs are "likely to succeed in attracting, educating, and graduating students who are career oriented, mature, and intellectually able" (Schwirian and Gortner, 1979, p. 358). However, these authors also point out that academic criteria are poor predictors of clinical performance (p. 352) and that, while academic performance standards are necessary, acceptable clinical performance is a more critical factor in a student's progress (p. 357). This finding suggests that laboratory science rather than academic skills are a better predictor of success in the development of necessary psychomotor skills in health professions.

Summary

The basic literacy and skill levels necessary for community college health programs can be determined through a review of accrediting requirements and through the admissions, standards of progress, and graduation requirements of individual college health programs. Although more research is needed to corroborate these findings, that already completed is generally supportive. Requirements vary somewhat from program to program, but in composite the programs require proficiency in English, mathematics, and natural sciences. In some institutions, students lacking entrance level academic achievement may be admitted to health programs, but they are expected to increase their proficiency in English, through special and standard courses. Some institutions have found that developmental reading programs stressing general vocabulary and the terminology of the specific health program are effective in improving reading skills (Ferguson, 1979). At least twelfth-grade reading comprehension appears necessary for satisfactory completion of a health program.

Special mathematics courses have been developed to assist students both to improve their basic mathematics proficiency and to learn practical applications of mathematics principles to specific health program problems. A fundamental understanding of elementary algebra seems to be the minimum mathematics competency for successful completion of health programs. Some office-related health programs require application of mathematical understanding to master certain bookkeeping and accounting skills.

Proficiency in the natural sciences seems to be related not only to understanding science concepts but also to learning manipulative skills in science laboratory exercises. In addition to science admissions requirements, some health programs require general courses in biology and/or chemistry, and others require some specialization. For example, dental hygiene may require specialized work in head and neck anatomy; radiology may require some work in physics; and dietary technology, some knowledge of food chemistry and nutrition. These science requirements suggest a student must be able to learn and to apply abstract concepts.

Health programs require proficiency in typing and shorthand if they are designed to prepare individuals to work in office settings or to assist in medical records technology or dental or medical offices. This preparation, along with the manipulative skills required in various laboratory settings, points out that basic psychomotor skills are as important as basic literacy skills to successfully complete some health programs. In a few instances, courses in computer applications and operations are required. While this practice is not widespread, more students in health programs will be required in the future to learn computer basics and perhaps to develop a more sophisticated understanding of how electronics in general are used in various health care delivery systems.

Most processes of health programs accreditation require a review of the library holdings in a specific program area. College catalogs do not clearly indicate whether or not many health programs require demonstrated proficiency in the use of the library as a reference and research tool. English class requirements probably include library usage, but this form of literacy should be reinforced within the health program courses. Unless health program graduates can use a library, their ability to maintain technical proficiency will be substantially limited.

All health programs require students to complete the requirements for the associate degree mandated by the parent institution. Several health programs, however, determine the courses to fulfill the specific requirements for graduation from the program. Some programs require a course in ethics to fulfill a humanities requirement (Pfeiffer, 1980). Other programs may require courses in child growth and development, adolescent psychology, or courses dealing with stress to fulfill institutional social science graduation requirments (Clavner and Sumodi, 1981); most programs specify the necessary science courses. In general, health program students do not elect courses to fulfill their general education graduation requirements but take designated general education courses.

Successful health programs require not only basic literacy for admission but also require more sophisticated knowledge of English, mathematics, and science. Students must be able to apply these skills in problem solving. Therefore, successful allied health students must be capable of mastering the highest types of learning and must be able to take responsibility for and initiative in their education. Of the eight types of learning and the conditions required for each (Gagne, 1970), the highest forms of learning include concept learning, rule learning, and problem solving. Gagne states that the requirements for successful completion and successful work experience in the allied health programs would certainly include the student's ability to deal with these

more sophisticated forms of learning.

The trend over the past ten years has been to allow students to enter programs despite their chances of success, perhaps based on a "right to fail" premise. Moreover, many colleges have permitted students to develop their own programs and to set their own schedule of progress. It would seem that more structure may be required to improve the chances for student success in these highly demanding programs. The sequence of courses in allied health programs should be arranged to ensure that necessary academic skills are developed in a timely fashion and that students be required to remain in sequence once started.

Certainly, those students who will be successful in allied health programs are required to demonstrate or to develop academic and psychomotor skills not usually required for admission to other community college programs. Selective admissions has helped to maintain a high caliber of students and a highly visible, successful program.

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# Literacy, Transfer, and Effectiveness: The Community Colleges' Accelerating Mission

Community colleges developed during the twentieth century as a distinctly American education form combining several missions, and were designed to offer four types of educational experiences: capstone education for those who would not progress much beyond the secondary school; the first two years of college for those who would pursue baccalaureate degrees and perhaps graduate studies; occupational programs for those who sought employment; and casual, community-based education for those who desired an occasional course. As these institutions evolved, they assumed the role of expanding access for everyone who might otherwise by excluded from higher education: the women, the poor, the minorities, and the ignorant or illiterate.

These colleges have tended to enroll older and part-time students as well as recent high school graduates. They are viewed as open-access institutions whose main contribution is to provide equal opportunity for all to engage in postsecondary studies, regardless of ethnicity, sex, age, family income, or physical or developmental handicaps. This function put them in the forefront of democratizing education, a role that most people perceive as providing opportunities for everyone to progress to the limits of their ability.

The community colleges have always tended to let everyone in. To some extent, they also guide their enrollees to programs that fit their aspirations and offer some chance to succeed. Students who qualified for the transfer programs were never a serious problem; their courses were similar to those offered in the lower division of the four-year colleges and universities. Technical and occupational aspirants were not a problem either, since programs were organized to teach the trades. Internal selectivity was the norm; failing certain prerequisites, applicants were barred from health professions and technology programs. Students who wanted to satisfy personal interest found courses primarily in the division of continuing education and in the transfer programs.

Many students who failed to learn basic skills in earlier years are among those for whom the community colleges have opened their doors. This has been the case since the inception of the junior colleges, but it is more evident today since so many enrollees lack a grasp of the basic skills. This handicap accelerates a decline in ability which apparently began in the 1960s and continues to grow in the 1980s, and is due to the coalescence of several social and educational forces: the coming of age of the first generation reared on television, a breakdown of respect for authority and the professions, a pervasive attitude that the written word is not as important as it once was, the imposition of various nonacademic expectations on the public schools, a wave of people new to this country who are not only illiterate in English but poorly prepared in their native languages, and a decline in academic requirements and expectations at all educational levels.

Just as literacy is related to life, it is also related to success in college. Most transfer courses demand proficiency in reading, writing, and/or mathematics. The licensure examinations that admit students to practice after completing technological programs typically demand literacy proficiency. Despite general institutional access, many programs are closed to students who cannot pass an entrance examination based on literacy. Administrative tasks such as filling out applications, understanding information about deadlines, requesting assistance, and carrying out other noninstructional, but nonetheless important tasks relating to student success, all demand literacy. Although the colleges admit all students, some level of literacy is a requisite for entry to--and success in--most institutional operations.

Because of all the social and educational forces, the remedial, or developmental, activities of community colleges have increased dramatically. Indeed, the public community colleges have taken the brunt of the poorly prepared students. Few colleges maintain admissions standards, hardly any demand a minimum high school grade point average, less than one in five imposes an entrance test, and one-third do not even require a high school diploma. The relaxed admissions requirements and availability of financial aids at some universities, a severe decline in the scholastic

abilities of high school graduates, and a greater percentage of applicants who have taken fewer academic courses in secondary schools are all factors resulting in a group of entering community college students who are illiterate in many areas.

The poorly prepared group of students who passed through high school is swelling the numbers of college entrants and, by definition, is hindering institutional success. What to do with marginally literate people who aspire to attend college but do not know why? How to deal with someone who wants to be an attorney but who is reading at a fifth-grade level? Shunting these students into the technological programs was the favored ploy that gave rise to Burton Clark's (1960) cooling-out thesis. Another ploy was to offer students a smattering of remedial courses or to entertain them until they drifted away. But the decline in achievement exhibited by secondary school graduates and dropouts in the 1970s hit the colleges with full force and, by most accounts, has increased in intensity as the 1980s got underway.

The issue of the marginal student is central to instructional planning. Indeed, the single thorniest problem for community colleges today is the guiding and teaching of students unprepared for traditional college-level studies. Some institutions tend to award certificates and degrees for any combination of courses, units, or credits and send people away with the illusion of having completed a successful college career. Other institutions have mounted massive special instructional and counseling services for lower ability students; such stratagems are designed to puncture the balloon of prior school failure. But in most programs in most institutions, expectations for and indications of student achievement have simply declined. The weight of the low ability students hangs like a heavy anchor on the community colleges.

## Issues and Approaches

Despite lowered expectations and a preponderance of unprepared students, the community colleges have tried to redress learning deficiencies with compensatory programs. The colleges have developed a number of disparate courses designed to prepare students to enter college transfer programs, courses that were usually not accepted for credit toward an academic degree. Students were placed in these remedial courses on the basis of entrance tests or prior school achievement. Today most public two-year colleges offer some special services, special programs, special courses, or remedial activities for the academically disadvantaged.

The most widespread euphemisms for those special courses designed to teach the basics of reading, writing, and arithmetic are remedial, compensatory, and developmental. Regardless of the term used, enrollments are high. It is impossible to determine how high, however, because few reliable surveys have been conducted. Courses at different colleges are difficult to compare because course titles, content, and numbering vary. What is "Remedial Writing" in one college is "English Composition" or "Developmental Studies" in another.

Despite this inconsistency the magnitude of compensatory education can be estimated by counting the number of class sections offered in remedial English. Using the 1977 catalogs and class schedules from a national sample of 175 public and private colleges, the Center for the Study of Community Colleges (Los Angeles) tallied sections in all academic areas and found that nearly one-third of the offerings in mathematics were precollege level, and around two-fifths of all English (excluding literature) was remedial reading or composition (Cohen and Brawer, 1982).

Clearly the colleges have been devoting a major portion of their institutional effort to the poorly prepared students. However, several questions still remain--questions that range from program effectiveness to institutional purpose:

- What are the placement procedures for learning-handicapped students?
- Do the programs really teach people to read and write?
- Should poorly qualified students be segregated in special programs or should they be allowed to enter the regular classes?
- How does remedial education relate to dropout rate?
- Can a college devote such a great proportion of its effort to remedial studies without jeopardizing its standards and its place in higher education?
- How many times should the public pay the schools to try to teach the same competencies to the same people?

Numerous research reports indicate that colleges have little trouble identifying the poor students, and, where separate compensatory courses and programs have been established, they seem to have the intended effect. The placement procedures seem valid: in a study of remedial English classes in 14 community colleges, the students' writing ability at the end of the course was found to be, on average, equivalent to the writing ability of students who were beginning regular college English classes (Cohen, 1973).

Many such programs also seem to lower student dropout rate. Staff members pay closer attention to the students, integrate teaching with counseling, provide a greater variety of learning materials to these special students, and seem to cause their enrollees to devote more time to their studies. In short, students tend to remain in school when special treatment is applied; when students are given supplemental counseling, tutoring, and learning aids; and when they are singled out for

additional work and given special attention. Nothing surprising in that: special treatment of any sort usually yields special results. What is surprising is that reliable data on consistent program effects are not readily available.

Special Compensatory Programs

Some compensatory education programs have been designed for people not regularly enrolled in college. These vary from programs for Navajo Indians (Smith, 1979) and inner-city adults working in construction jobs (Howard, 1976) to programs that include both academic and vocational skills and personalized educational placement and counseling for anyone with minimal income, low reading level, erratic employment pattern, or arrest record (Conti and Others, 1978).

Compensatory education thus involves the colleges not only with students who come to the campus seeking academic programs, degrees, and certificates, but also with adult basic education, even though adult studies are often funded and organized separately. Sometimes, especially when the colleges are responsible for the adult education in their district, entirely separate structures are created. For example, the Urban Skills Institute operated by the City Colleges of Chicago enrolled 45 percent of the district's students in 1980. The College Centers maintained under the aegis of the San Francisco Community College District provide another case in point. Both of these structures take some of the pressure for compensatory education away from the colleges' regular programs.

Other institutions have adopted different procedures for furthering student literacy and direction to further education or employment. Miami-Dade Community College, for example, has taken giant steps to deal with students who need developmental help. It has established goals for general education, it requires demonstrated proficiency in the basic skills before a degree is awarded, and it leans heavily on academic advisements to students, developmental education resources, credit by examination, and evaluation of its general education program (Lukenbill and McCabe, 1978). All students who have completed three courses at Miami-Dade must take examinations in mathematics and English to determine their proficiency. Subsequent placement into support courses, the general education core, or specialized courses, is dependent upon results of those tests. Taking a similar approach, Passaic County Community College (New Jersey) tests all entering students in reading, writing, speech, and math. Students who lack proficiency in any of these areas are placed in a sequence of precollege courses (Mellander, 1980). Penn Valley Community College's developmental studies program integrates developmental education into the main stream of the college by establishing the Learning Skills Laboratory (LSL) as an extension of the math and English classrooms. Students may complete LSL instructional activities either before progressing or, upon faculty discretion, concurrently with a course (Ford, 1976).

Attrition

What effect does special training have on attrition and classroom grades? A follow-up report of a developmental education program in Ohio found that those students who participated in developmental programs tended to do weil once enrolled in regular courses, tended to have better retention rates, and adjusted more easily to regular courses than those who had not been in such programs (Romoser, 1978). At Triton College (Illinois), a developmental education program was established to increase retention and graduation rates among academically disadvantaged students. Various support systems were employed, faculty policies were restructured, and student orientation and counseling procedures were established to help academically disadvantaged students (Helm, 1978).

In Fall 1978, Sacramento City College (California) instituted a higher education learning package to promote both success and retention of students with basic skill deficiencies while mainstreaming them into regular courses. Students worked with instructors and tutors in small groups and on a one-to-one basis, and instruction was built on student experiences. Progress was measured relative to established competencies (Bohr and Bray, 1979). At Los Angeles City College, the Learning SKills Center (LSC) is an individualized learning laboratory that offers assistance in communication and learning skills and also provides tutoring in all college level courses. One tangible result is the lower dropout rate among student participants (Benjamin, 1976).

Counseling and Evaluation

Many efforts to cope with problems of literacy also include special counseling and guidance. While these interventions most often involve personal counseling, efforts to motivate students, and skills training, the focus is generally on the acquisition of basic skills.

Conti and Others (1978) describe a program that provides broad base quality education, both academic and vocational skills training, and personalized educational placement. At Clackamas Community College (Oregon), a government studies program was developed to deal with functional illiteracy. Its specific aim is to increase student ability to express desires coherently and to convey feelings about themselves positively. The attrition rate for students enrolled in this program was reduced considerably (Epstein, 1978).

What types of evalution procedures are used to assess the effectiveness of these special programs? Some evaluations are based on pre- and post-test results. Others use individual survey data. Many are worthy of note. For example, the success of the Developmental Skills Program offered at Los Angeles Southwest College, a 96 percent Black institution, is indicated by an average student grade equivalent gain of 2.3 years in one semester; a five-year average accelerated academic growth rate that is 5.9 times the previous academic

growth rate of Black inner-city students, and an increased retention rate of 80 percent. Specific methodologies related to this program's success include pre- and post-testing, placement techniques, group orientation, close instructor contact, use of skills specialists, course uniformity, nontraditional reading assignments, firm deadlines, and required departmental meetings (Wallace, 1977). It is apparent that many of these activities incorporate traditional approaches to teaching and learning.

About two-thirds of the students at Essex County College (New Jersey), including those whose reading ability at the beginning of the class was in the third- to seventh-grade level, successfully completed a remedial English course. Ten percent scored well enough for placement in regular English classes (Drakulich, 1980). Because the percentage of entering freshmen with very low composite American College Test scores increased from 1967 to 1975, remedial English courses at San Antonio College (Texas) were replaced by a multimedia laboratory that includes self-pacing, computer-assisted instruction, and special tutoring (Rudisil and Jabs, 1976).

Perhaps the most prominent development in compensatory education in the 1970s was the integrated program that combined instruction in the three Rs with special attention to individual students. Self-pacing procedures, tutoring, counseling, study skills assistance, and reproducible learning media were all brought together in various combinations for especially identified low ability students. Numerous reports of these types of programs may be found. As an example, Loop College in the Chicago City system developed a block program for low ability students that included peer tutoring, intensive study skills training, special advisement, career counseling, and the use of audio-visual materials--all under the management of a special course in psychology.

Problems

In common with traditional programs, these special programs exhibit several problems related to standards. A major problem is the difficulty in setting fixed exit criteria for courses and programs that have no set entry requirements. If anyone may enroll regardless of ability, a wide range of students will be attracted. Thus, the exit criteria must either be fluid, (with a different standard for each student), the time and type of instruction must be greatly varied, or the expectations must be maintained at an exceedingly modest level. All three options are at play to some degree in practically all programs.

Standardized expectations of accomplishment, or exit criteria, suggest social norms as contrasted with standards for individuals, and social norms suggest that people who would function adequately in particular settings (the workplace, further schooling) must act according to certain standards. On the other hand, relating accomplishment to individual desires or entering abilities suggests that any progress is satisfactory and that the institution has succeeded if any gain in individual ability is shown. This conflict between social and individual standards becomes an issue of the absolute versus the relative, an issue that strikes at the heart of compensatory education.

Another question relates to the denial of admission to certain academic programs. Is this justified? The community colleges' open-door philosophy indicates that students should not be denied access. The fact that they can be taught to succeed suggests that they should not be denied. And the fact that students who are denied access to academic programs are typically denied exposure to the humanistic and scientific thought on which they are based mandates that they must not be so denied. The community colleges have succeeded in opening access to all; if that access is limited to a compensatory program that offers primarily the same type of basic education that failed the student in the lower schools, that student has been cruelly denied access to higher learning. The colleges cannot afford to operate separate programs for the less qualified. They must teach literacy in the transfer programs, and they must provide whatever assistance it takes to get the student through them.

Here is where the community colleges can reconcile their conflicting philosophical bases. They say they exist to meet everyone's needs. If so, they cannot rightfully deny anyone access to a desired program. They say they are a stepping stone to higher learning; hence, they cannot condemn a sizable percentage of their student body to a form of education that is less than college level. They say they respond to community needs, but they must acknowledge that curriculum is dictated more by internal institutional dynamics than by external pressures. They say they have something for each student; and therefore they must mount a sizable effort to provide a variety of media necessary for each student to succeed.

Teaching the basic skills to people who failed to learn them in the lower schools is difficult and expensive. Questions of effect on college staff and image pale before the issue of cost. No form of teaching is easier, hence cheaper, than the course for self-directed learners; the teacher-student ratio is limited only by the size of the lecture hall. None, not even education in the higher technologies, is more expensive than the varied media and close monitoring demanded by slow learners. Many college leaders fear publicizing the extent of their compensatory education programs, lest their funding be threatened by legislators and members of the public who raise embarrassing questions about paying several times over for the education that was supposed to be provided in the lower schools.

Since the necessary funds to support able students through the courses of their choice are not likely to be forthcoming, some compromises will have to be made. But these must not take the form of segregated remedial programs; many more balanced measures are available. As an example, Miami-Dade Community College is operating a massive general education/student advisement system for its

39,000 students. A computerized academic alert system monitors student progress by checking course attendance and completion then sending individualized midterm progress reports to each student. An Advisement and Graduation Information System (AGIS) provides additional data, matching all students with their degree aspirations and informing them of their academic progress. And a Standards of Academic Progress model warns students if they are failing to make satisfactory progress toward completing a program and places them on suspension if they do not reduce their load and take advantage of the special interventions available to them.

In short, Miami-Dade has not mounted a compensatory education program for deficient students until they are ready to enter the regular courses. The college has restructured the curriculum by building truly integrated general education courses required for all students, and they have built a computerized advisement system that keeps the students apprised of their progress toward completing a program. All of this has been done within the framework of directives and standards such that the students know exactly what they must do. These sets of institutional aids and expectations may be as close as a college--not an individual within that college--can come to showing its care for students. That alone should have a notable effect on the development of literacy.

Chicago has taken a different tack. Since student achievement in remedial courses did not result in improved performance in regular college courses or in increased retention--and since enrollment in remedial courses had a highly adverse effect upon the students' self concept (Chausow, 1979)--the concept of mastery learning was instituted. Although student achievement and retention rates have not been superior in classes using the mastery learning concept to those attending remedial programs, they are generally higher than the achievement and retention of students in regular courses taught in nonmastery fashion. The City Colleges of Chicago have also found that well-planned support services can compensate for poor college preparation. Cooperative staff and faculty efforts in improving the learning process can result in more successful college learning experiences for more college students.

Remediation does not have to come in the form of segregated remedial courses. It would seem that the community colleges have few options. Dropping, failing, or otherwise sending poor students away is not one of them. The pool of illiterate students is too large and the competition too great to allow that luxury. Segregating students in compensatory programs seems desirable only to the faculty who want classes comprised of self-learners and to the universities that want the community colleges to screen out the unworthy.

## Options

Several options are available. The first option involves defining the exact competencies required to enter and succeed in each "academic" course. College-level academic standards are not sufficiently precise, and there exists too much variation between courses in the same program--indeed, between sections of the same course--for these criteria to hold. Standards are too often relative instead of absolute. Screening tests can be employed at the point of entry to each class, but only if precise exit criteria, also known as specific, measurable objectives, are set.

The second option is to allow all students to enroll in any course but to limit the number of courses that poorly prepared students can take in any term and to mandate that those students take advantage of available support services. Those especially designated students may only take one course at a time and must participate in learning laboratories on the basis of three hours for each credit-hour attempted.

The third option is for colleges to abandon the pretext that they offer freshman- and sophomore-level studies. They can enroll high school dropouts, adult basic education students, occupational students, and job upgraders, offering the services they need outside the structure of credit classes.

To some extent, all three options are now in play at some colleges. Colleges that are involved in mastery learning and other techniques relying on precisely specified measurement of student progress have built their programs on absolute standards. Those institutions that monitor student progress and assist students to participate in auxiliary instructional services have moved well toward building the kind of effort that teaching the poorly prepared student demands. Those that have erected separate institutes to concentrate exclusively on adult basic education have abandoned collegiate studies de facto. As an example, the Urban Skills Institutes in Chicago and San Francisco make no pretense at mixing collegiate studies with basic literacy.

One more option might be for the colleges to reconcile their relations with the secondary schools from which they have broken away. Education on any level demands prior preparation of students. Decline in the secondary schools in the 1970s was one of the most notable events of the decade in education, and much of the blame can be placed at the doors of colleges that failed to communicate to the secondary school staffs just what they expected of their students. Whether or not community colleges pick up seventeen-year-olds who did not gain literacy in their high schools or those who left high school early, or whether they serve as a bridge between high school and work for older students, the colleges are involved in a mission of connecting people with opportunities. They will be involved in compensatory education in one form or another for a long time to come. Consciously choosing among the available options is a necessary first step.

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# Ten Criticisms of Developmental Education

Developmental education is a timely topic. Community colleges are going to be involved with it for the next decade at least. It affects all their work. As an example, the percentage of traditional collegiate courses they offer has been declining for the past fifteen years. Why? Occupational education and students' desire for jobs is part of the reason, but only a part. Much of the decline in the liberal arts can be traced to the decline in students' level of literacy. The liberal arts rest on literacy. They suffer when students come to college unable to read and write at a level that fits them for any semblance of the higher learning. Despite all its other presumed outcomes, developmental education is successful only to the extent it teaches literacy.

Is developmental education effective? Much depends on the definitions employed. Literacy is probably most often defined as "the ability to read, write, and compute adequately in context." The words, "in context" are an important part of the definition. They suggest that there are no absolute standards of literacy, no way of saying that a person is literate or illiterate. The person is or is not literate in the context of a job, of being a citizen of a community, of being a student in a classroom.

Developmental education has been applauded and it has been criticized. Some of the criticisms are valid, some are not. Some are answerable, while others defy a response. Following are ten of the more commonly heard denunciations.

First, The community college is the wrong place to do developmental education. The contention is that developmental education belongs better in the adult schools, in the private sector, or in corporate, on-the-job training programs. The obvious response is that the community colleges may not be the best place to do developmental education, but they are stuck with it. It is going to get a lot more important in the next decade that it has been. Remedial or developmental education will become the general education for the community colleges of the 1980s.

Developmental education's importance should be no surprise. It stems from the types of students coming to the colleges, an historical phenomenon. In the early part of the nineteenth century, colleges opened for women, and coed colleges followed. Thereupon, it became immoral to bar women from collegiate studies. In the latter part of the century the land grant colleges opened, making it possible for children of the less affluent to go to college. It then became immoral to bar people of modest income. The civil rights movement of the 1950s and 1960s led to the belief that it was immoral to bar members of ethnic minority populations from going to college. More recently, the various financial aid programs have made it immoral to bar the indigent. Most recently, it has become immoral to bar the physically handicapped. And the open access, open door community college finds it unfeasible and, indeed, immoral to bar the ignorant. It has become immoral to deny anyone access to college just because that person cannot read, write, or compute. The colleges' involvement with developmental education rests on that.

In the 1960s and the 1970s, the community colleges were dedicated primarily to one theme: access. Open the door, get everyone in, build programs for returning women, veterans, drug abusers, displaced homemakers, people with too much time on their hands, people without enough time to learn what they need to know to progress in their specialized area of work. The community colleges built programs to attract people from every corner of the community. And the enrollments swelled. Now that everyone who can reasonably be enticed to come to the institution has enrolled, the next issue is going to be that they must be taught. And that suggests literacy development.

Second criticism: Developmental education costs too much. How many times should the public have to pay to teach the same person how to read? The argument is that developmental education yields a low benefit for a high cost, that the taxpayers will not be willing to pay for the same type of instruction over and over. Many of the community college leaders have responded that it costs less to teach developmental education in community colleges than in universities and other institutions. It is time they stopped saying that. They should stop talking about the economies of the community college versus the university. It makes them sound like a restaurant owner who says, "Our food is not good, but it's cheap." That is not a very apt way of advertising.

Nonetheless, there are many ways of making developmental education better without spending more. The practitioners of instruction, faculty and administrators alike, have yet to understand that paraprofessional aides can greatly enhance developmental education--as, indeed all other types of education--while holding costs down. Using senior citizens, other lay people, and advanced students as aides to the faculty and tutors to the students who need assistance can be quite salutary. They can assist in numerous ways and they will work for a pittance. Yet, few college staff members have understood or want to understand how to take advantage of the great pool of economical assistance available in the person of advanced students and senior citizens. The mores of the educator seem to mitigate their understanding that successful teaching does not necessarily depend on a $30,000 a year professional person working on a one-to-one basis with a student.

Third criticism: Because the academic faculty do not want or know how to teach literacy, developmental education should be

operated as a separate department. That is wrong. The community colleges are so deeply involved in developmental education that it must involve the total faculty. Every faculty member is affected. In the open access community college the only programs that can control entry are those that are in high demand such as the high technology and the allied health programs. They can afford to be selective and can demand literacy. But, none of the other programs enjoy that prerogative. In all the other curriculums the students must be taught whether or not they can read and write at the outset. Separate developmental studies programs or departments only serve to widen a gulf that already exists between faculty with high pretensions; i.e., those who neither know how nor want to teach literacy, and those who are involved with developmental education all the way. A separate developmental studies department also suggests tracking, a concept that has adverse connotations.

Every program, every department should have a developmental education component within it. Developmental education should be built into the courses in all departments; either separate courses within the department, or, better, literacy in every course. Less than five percent of the students in community colleges nationwide complete two years and transfer to the university. Less than 10 percent are enrolled in courses for which there is a prerequisite. The entire institution has become a combination of introductory courses and developmental studies. The community college is well on its way toward becoming a grade-13-plus-less-than-college-level institution. It is in danger of losing the sophomore year. Separate developmental studies departments serve only to accelerate that trend. Developmental education should be integrated into every course.

Fourth criticism: There is insufficient articulation with the secondary schools. That is a justified criticism. When the community college was young, grown out of secondary school districts in many states, many of its instructors taught in the high school in the daytime and in the community college at night. Most of the full-time community college instructors were former secondary school teachers. Now, that connection has been weakened. The community colleges demanded the right to become a part of higher education and, as they did, they tended to turn their backs on the secondary schools. If less than five percent of the community college students complete two years and go to the university, but practically all of them come from the neighboring secondary schools, the community colleges are facing the wrong way.

Educational leaders in some states are trying to rebuild the links between higher education and the secondary schools. California public colleges and universities recently issued a joint statement contending that students in college preparation programs in grades 9 through 12 should include a minimum of four years of English and a minimum of three years of math. A report from New Jersey notes, "The level of proficiency required to complete three years of high school English and math is considerably lower than the proficiency expected of entering freshmen in the institutions of this state." (ED 185 098). And the president of Miami-Dade Community College has recently collected data on the preparation level of entering students and presented those data to the secondary schools in his area.

Criticism five: The faculty don't know how to teach literacy. That criticism may be warranted generally, but there is much variation among instructors. Surely, few instructors enjoy teaching students who do not know how to read and write; most want bright, capable, literate individuals eager to learn the most specialized bits of subject matter. But those students are not forthcoming. This suggests a role for the developmental educators. They should treat the faculty in the collegiate programs as their students. Instead of isolating themselves in a separate department to which the collegiate faculty happily send their poorer students, they should work directly with that faculty. That is one of the reasons for integrating developmental studies within the academic departments; it brings the developmental educator into association with the collegiate faculty. It allows the developmental educator to become an educator of instructors.

Criticism six: There is too much experimentation and too few results. That is a justifiable criticism. We know what types of programs work. Every college, president can point to a special program where a few dozen students are getting a high intensity experience. Every college has a few students coming through a program in which they are learning to read so well they are moving up three grade levels in one semester. But those programs are not feasibly extended to the population at large. Throwing a high faculty/student ratio, special additional funds, and a high level of involvement for support people at small groups of students yields wondrous results. But it is time now to integrate developmental education into the fabric of the institution.

Criticism seven: We ask too little. That may sound strange, but few teachers use readers or paraprofessional aides to assist in reacting to students' writing; they just assign fewer papers. Writing is a skill learned through practice, just as speaking is a skill learned through practice. We become literate by reading and writing, whether by joy or coercion or some combination of both. Literacy is developed by doing it. People learn to write by sitting down and writing. Most of the problems in literacy development that are being faced in the community colleges today, that is, the portions of the problem that are in the control of the schools to accommodate, can be traced to declining demands. The schools haven't asked people to do as much. They don't demand as much reading and writing all the way through the school system

as they did a generation ago. Ask less, get less.

Eighth criticism: There are inconsistent standards in the classrooms. This criticism is certainly warranted. Different demands are placed on students in different fields and in different classes in the same field. An alert student can track a path through the college and never have to write a paper. As long as that option is available, it becomes difficult to maintain any type of literacy development in the institution. Surveys have found tremendous variation in reading and writing requirements, not only between fields, but also between instructors in the same field. There may be as much variation between instructors teaching the same types of courses in the same disciplines as there is between disciplines. The inconsistency is not between the demands of science and humanities or between college-level and remedial. It is between one instructor, one course section, and another.

Criticism nine: Placement and diagnostic tests are not valid. The tests are usually seen as culturally biased and are not relevant except to English and mathematics. These objections can be countered. Every test of anything is culturally biased; the entire school system is culturally biased. A culture-free test for admission to certain classes in school would be biased if it did not test students' ability to succeed in those classes. The classes are culturally biased; thus, a culture-free test would not be valid.

Of course, the tests are not relevant to courses other than English and math because few people know what instructors in those other courses expect. It is not valid to ask applicants to take a reading test if they may go through the institution taking courses where they just have to watch films. Which tests should be used? And when? Who should administer them?

Miami-Dade Community College has a procedure whereby any student who enrolls for more than three classes all at once or in sequence, or any student who enrolls for a class in English or math, is sent to the testing center to take a placement examination in English and mathematics. On the basis of the results the student is counseled into certain sections of those courses. But, that type of student flagging depends on a sophisticated student monitoring system. Few institutions are set up to do that. Students may go along taking course after course without ever having been tested. Only when they sign up for an English or math class does the testing procedure come into effect. And even then, it may be a homemade test devised by the members of that department. Nonetheless, more testing is better than less in the current climate.

Last criticism: The support services are not worth what they cost. Counseling, tutorials, learning laboratories, and other types of student learning areas that have been built outside the formal classrooms have been accused of being too costly for what they provide. That may be so, but there is good reason for it. The reason is that the classroom instructors have tended to have little affiliation with the supportive activities. The learning laboratory is managed typically by a learning resource director. The tutorial center may be managed by some other group. There is very little association between course content and any of the ancillary services. Few instructors work with support people.

That suggests another role for the developmental educator. They must bring the support activities and the instructors together, showing the instructors how they can use the support services as a way of bolstering their own instruction. The instructors need to be helped to integrate the work they are doing in the classrooms with the services available. They, themselves, need to feel confident in their use of support services.

In conclusion, there is hope for a strengthening of instruction in the 1980s. The slide toward curricular anarchy has gone as far as it can go. Various demands for increased linearity in curriculum and student placement are being made. Sophomore-level achievement tests are on the horizon. And, if the colleges are to maintain their transfer function, developmental education must be built into it. It is difficult to defend the transfer function when less than ten percent of the enrollment is in courses with prerequisites. Yet, that is what is happening; that is what separate areas of developmental studies enhance.

The solution is not to undertake misguided action. For example, it is impossible to limit the number of courses an employed student may take; more than 70 percent of the students work now. Nor is it feasible to hold students out of the collegiate courses until they prove they can read; too few students can read at the level we would like. But support services can be mandated; and tutorials and learning laboratory activities can be integrated with classroom instruction. Every instructor can demand reading and writing in every classroom. Exit tests can be offered so that the colleges can demonstrate what their programs have actually done, whether or not the students transfer. Literacy development can become the community colleges' strength.

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# Coordinating Academic Support Programs With Subject Area Courses

In the last fifteen years, educators concerned with learning skills have made great strides in developing effective techniques for teaching college students how to improve their skills in the areas of reading, writing, speaking, computing, and studying. Instructional materials and equipment have become more sophisticated. Learning centers have become better organized and managed. Developmental educators have gained valuable experience in working with the wide range of students attending community colleges; and academic support services have become readily accessible to all students.

Despite these advances, academic support programs (e.g., learning skills instruction, counseling, advising) are still beset with a number of serious problems. (1) Only a small percentage of the students who could best profit from the assistance provided by the academic support staff take advantage of these services (Friedlander, 1978; 1982a). (2) Many students are enrolled in classes for which they are ill-prepared in general learning skills as well as in the content of the classes (Friedlander, 1982b; Johnson and Others, 1980). (3) Many students report that they do not take advantage of a needed support service because they do not have the necessary time to do so (Friedlander, 1982a). (4) Community college students frequently have difficulty applying skills learned in reading, writing, mathematics, and study skills classes to actual content in their occupational and academic classes. (5) Many students are dissatisfied with their learning skills courses because they feel the material is too far removed from their academic course work and attainment of their educational objectives. (6) And few nondevelopmental education faculty have the training or the desire to assist students in applying the learning skills they acquired in their developmental education programs to the requirements of the content courses. As a result, students completing developmental studies programs often suffer the effects of regression in achievement on tasks requiring the application of basic skills (Arwardy and Chafin, 1980).

A major factor contributing to the problems faced by academic support staff is that their programs, in most instances, are segregated and isolated from the content courses. Currie (1978) has observed that "as long as the reading/study skills area remains segregated and isolated, it cannot serve all students it should be reaching, it cannot adequately integrate its curriculum with the content course, and, above all, its faculty cannot cooperate in a unified manner with the college's entire academic community to meet the challenges of a diverse student body" (p. 234).

## Purpose of Paper

In an effort to improve the effectiveness of their programs, a number of colleges are attempting to coordinate their academic support services with particular subject area courses in the following ways: (1) learning skills staff are targeting their services to specific college-level courses; (2) learning skills courses are being offered in conjunction with subject area courses; (3) learning skills instruction, subject area courses, and academic counseling are being presented together as part of a coordinated block program; and (4) faculty in nondevelopmental courses are being encouraged to teach basic learning skills in their classes. This Junior College Resource Review will describe each of the above approaches.

## Working With Subject Area Faculty

A sizable proportion (about 20 percent or higher) of the students enrolled in community college freshman-level courses lack proficiency in basic learning skills needed to succeed in their courses. This problem is compounded by the fact that few community college faculty members have training in presenting their courses to academically underprepared students. Nor are most faculty experienced in presenting their subject to a class of students whose learning skills run the gamut from poor to excellent.

Learning skills instructors can help subject area faculty be more successful in their teaching by engaging in one or more of the following activities. They can visit the content area classroom early in the term to show students how to use a study system with the course textbook, attend class prior to an examination to show students how to study and take the test they will be receiving, and co-teach with the content area instructor a special help session for the course (Currie, 1978). Currie notes that such visits lead to improved learning of course content, more referrals to learning skills programs, since students see for themselves how applicable the learning skills offerings are to their college work.

Learning skills staff can also assist subject area faculty by helping them to identify early in the term those students who are in need of some assistance. This is important since faculty may be reluctant to send students to an appropriate academic support service for the reason that they do not feel competent to identify students with learning difficulties. Currie (1978) recommends that reading specialists develop a short test to see if students are able to read the content area textbook. Students who score low on the test should meet with the faculty member and learning skills specialist to discuss how they can improve.

## Pairing Learning Skills Instruction With Subject Area Courses

Many college learning skills specialists

attribute the problems associated with remedial courses and programs to their being removed from the student's ongoing academic course work (Moran, 1980). Reports published in the journal literature and the ERIC files show that a number of colleges are attempting to incorporate reading, writing, and study skills instruction into college-level content courses.

The staff at Norwalk Community College in Connecticut (Sherman, 1976) have developed a program which teaches literacy skills simultaneously with academic course content. It is designed to be effective with low-achieving students in teaching them basic reading and writing skills and helping them transfer these skills to an academic area.

The program combines the teaching of the fundamentals of reading and writing into one course which is taught in conjunction with a college-level introductory psychology course. All students enrolled in the fundamentals of reading and writing are likewise enrolled in the introductory psychology course. Although the psychology course is available to all students, those with low scores on a placement exam are required to enroll in the fundamentals of reading and writing classes along with the psychology course.

The skills classes are coordinated with the psychology course in the following manner. Instruction in reading is based on assigned textbook chapters in the psychology course; instruction in writing focuses on showing students how to write about the chapters they have read; and the study skills component of the course focuses on specific techniques for organizing the material in the chapters and methods of test taking on the chapters (Sherman, 1976). Two of the advantages of such an approach are noted by Sherman: teaching reading and writing in integration with an academic course may facilitate transfer of skills to other academic fields; and academic faculty by working with the fundamentals skills instructors can learn to work with academically underprepared students.

Several colleges have initiated back-to-back course arrangements in which a learning skills instructor and a subject area instructor schedule one or two sections so that all the students in the subject class are also enrolled in the learning skills course. In such an arrangement, the learning skills specialist uses the actual texts, class lectures, and tests from the content courses as the reading/study skills course materials (Bergman, 1977).

The Adjunct Program at the University of California, Riverside is a structured, formal program designed to teach reading and study skills to students enrolled in a particular college-level course (Moran, 1980). These reading and study skills courses are coordinated with introductory courses in the following areas: biology for majors and non-majors, beginning chemistry, Black studies, Chicano studies, history, political science, psychology, religious studies, and sociology. The primary function of the instructor of the reading and study skills class (adjunct class) is to assess the demands of the content course in which the skills class is paired and then present the skills needed by the students to succeed in the course. The following topics are covered in the adjunct class: effective reading of the textbooks for the content course, underlining and other note taking techniques, lecture note taking, reviewing for tests, test taking techniques, and preparation in writing essay exams in those courses in which written exams are given. Topics covered in science and math adjunct courses reflect the demands of the content courses in these areas. Evidence of the success of the Adjunct Program is that it has become the major means at the University of California, Riverside, of delivering reading and study skills to its students. A complete description of the reading and writing adjunct course that was organized around the lectures and text of the introductory course for biology majors is available in Tomlinson and Tomlinson (1975).

Coordinating Support Services With Content Courses

The adjunct program at the University of Wisconsin, Eau Claire, consists of freshman level content courses with two extra class sessions added per week (Harding, 1980). The learning skills stressed in these extra sessions include lecture note taking, textbook reading, and studying for exams. These additional class meetings are used to coordinate the teaching of learning and study skills with the material presented in the regular course content. A unique feature of this adjunct program is that all of the support services needed by high-risk students are coordinated with the content course--assessment advisement, instruction in basic skills areas, and use of materials in the learning resources center.

Those educationally underprepared students who enroll in adjunct courses are assigned to a special advisor. These special advisors are provided with students' scores on tests in reading, writing, math, and study skills, as well as the results of tests given in the content courses. The special advisor and the students sign contracts in which the latter agree to use the specified support services and have their academic progress monitored. Advisors and adjunct instructors meet frequently to review the progress of each student in their courses. They meet with each student at least once a month to discuss the student's progress and, when necessary, recommend needed support services.

Harding (1980) reports that the adjunct courses at the University of Wisconsin, Eau Claire, have resulted in increased course retention rates, improved learning skills, and greater self-confidence and satisfaction with their college work among high-risk students. The growth of the program from two courses in 1976 to ten courses in 1980 provides further testimony of the program's success.

Block Programming

Greater Hartford Community College, Connecticut, and Chicago's Loop College have initiated block programs that consist of basic

skills courses, academic support services, and a college-level content course. Students enrolled in the ASTRA Program at Greater Hartford Community College have their schedules planned for two semesters. In the first term, students are enrolled in an interdisciplinary program of composition, reading, and speech. This curriculum, designed by the college's English faculty, is unique in that students are asked to work on similar objectives each week from the perspective of their reading, writing, and speech courses. The second term is comprised of an interdisciplinary course arrangement of Western Civilization, reading, speech, and composition. In the reading class, students improve their reading and study skills by using the text from the Western Civilization course. In the composition course, students write themes, answer essay type questions, and work on a research paper for the content course. In speech, student presentations are based on their research paper and the content of their Western Civilization course (Eddy, 1979).

Assessment, tutoring, and counseling are built into the ASTRA Program. Students' abilities are tested at the beginning of the program. Tutors are used regularly during class time and also are available in the learning center. Counselors meet each week with the instructors for the purpose of monitoring student progress in their courses. They also meet frequently with students to discuss personal, academic, and career goals.

The first semester of the IN Program at Loop College (Barshis, 1979) consists of a 12 credit-hour block of work in reading, composition, psychology (self-development), educational and vocational counseling, and a content course chosen by the students to correspond to their educational objectives. In many instances, the content course (e.g., biology, sociology, child development) is team taught and coordinated with the basic skills course in reading or writing. For example, in the combination biology-English composition course, the English instructor uses materials from the biology course for assignments and the biology instructor requires writing assignments in and outside of class (Barshis, 1979). As with the ASTRA Program, academic assessment, tutoring, counseling, learning laboratories, and the close monitoring of student progress are integrated into the IN Program.

## Reinforcing Basic Skills In All Courses

Students finishing developmental studies programs frequently experience difficulty in their college-level content courses. Factors attributed with this low success rate among students who complete a developmental education program include: student difficulty applying skills learned in reading, writing, and study skills courses to actual content courses; regression in student ability to apply basic skills due to a lack of continued practice in using those skills in their content courses; and student reluctance to seek needed assistance from the academic support services provided by the college. Such problems arise when no mechanism exists for the purpose of providing continuing academic support to students after they progress from their developmental studies program.

The academic program at Miami-Dade Community College contains two components designed to provide continued academic support to all students, high-risk and others, in their content courses. One aspect of the program is that "...all faculty share the responsibility for assisting students in improving their reading and writing skills by giving assignments, when appropriate, by reinforcing the importance of these skills, by pointing out deficiencies, and by directing students to faculty who can provide the assistance needed" (Lukenbill and McCabe, 1978, p. 49). Incorporating basic skills instruction into all content courses gives students additional time to develop proficiency in those skills and it enables faculty to identify students who need assistance in those areas.

Monitoring of student progress, advisement, and counseling are built into all courses at Miami-Dade through its computerized Academic Alert and Advisement System (Anandam, 1981). At midterm, all faculty members provide information on questions pertaining to student performance and attendance in their courses. This information, combined with other data about the student (such as credit load, previous performance, native language, age, and basic skills test scores), is used to provide up-to-date information on student progress. This information is made available to students, faculty, and advisors, thus providing the college staff with a means for encouraging students to meet with their instructors and advisors and, where appropriate, to refer them to basic skills laboratories or other support units.

## Advantages Of Coordinated Skills And Content Instruction

Advocates of integrating the teaching of learning and study skills into the teaching of the regular college courses sight a number of advantages of this approach over presenting this instruction in separate skills courses and learning labs. Coordinating the teaching of basic skills with the content of an academic course should, through the transfer of skills to actual academic situations, help the students become effective in both the attached content course and their courses in other areas. Sherman (1976) notes that students are likely to master the skills necessary for success in a particular subject if, in the skills component of that course, they are provided with direct instruction in reading an assigned textbook chapter; if they are shown specific techniques for organizing the material in that chapter; if they are given practice in verbalizing the important concepts of that chapter; if they receive guidance in writing about that chapter, and learn methods of preparing for and taking a test on that chapter.

Additional advantages of coordinating services typically provided in separate developmental education programs with a particular

content course include the following. Students have a chance to earn academic credit and improve their skills while taking courses that they perceive as relevant to the attainment of their educational goals. Academic faculty, by working closely with skills instructors, are provided with a form of in-service training on teaching nontraditional students. Academic support staff are given a direct means of reaching students who could profit from their programs. And, learning skills staff can improve the prestige of their program by letting students and faculty see for themselves how applicable the services are to their courses.

## Conclusion

A high proportion of students are entering community colleges with deficiencies in the learning and study skills that are needed to succeed in their courses. The literature reviewed in this paper suggests that teaching literacy skills simultaneously with academic course content is a valuable alternative to the traditional approach of placing the academically underprepared in separate remedial courses.

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Tomlinson, B., and Tomlinson, M. Integrating Reading and Study Skills into College Biology. Paper presented at the 1975 National Reading Conference, 1975. 8pp. (ED 124 903)

# Literacy and the Community College

Two opposing views of literacy are at the core of most public debates about the effectiveness of schools and the decline in academic ability of college students. The symbolic view maintains that literacy is an individual trait measurable by standardized examinations in reading, writing, and recognizing correct usage in connected discourse. Typically, measures based upon the symbolic view are used to determine whether individuals should be admitted to selective colleges and universities or should be given preference in civil service employment.

However, performance in classrooms or work settings depends as much on motivation and the ability to get along with others as on technical competencies in reading and writing. A second or transactional view of literacy considers the entire range of characteristics required for groups to attain their goals rather than focusing primarily on the abilities of individuals to achieve high scores on standardized tests.

The educational effectiveness of schools and colleges has most commonly been judged by the standard examination scores of their graduates or matriculants. Consequently, less than half of the variation in predicting success in the classroom or on the job has typically been considered in such evaluations. This is not to say that schools and colleges cannot or should not improve their teaching of reading and writing. Rather it suggests the constraint of resources in the form of time, staff, facilities, and equipment along with expanded responsibilities to teach a more diverse clientele new subjects including specific career training, the free enterprise system, driver education, and so on. Something has to give.

The recently completed Oakwood study at Arizona State University was funded by the National Institute of Education to examine what gives in a community college setting. The study, conducted over a three-year period on one campus of an urban multicampus community college district, used naturalistic observation and qualitative description to consider (1) the use of written language in classrooms and in services to students, and (2) how administrative priorities and the strategies used to achieve them indirectly influenced literacy.

## Defining Literacy

Consistent with current trends in defining literacy (Bormuth, 1975; Kirsch and Guthrie, 1979), the Oakwood study adopted a transactional view. From this perspective literacy was not considered a static trait or an individual's abilities but as a dynamic aspect of situation-specific and goal-related social activities. Literacy was defined as the use of reading and writing to pursue a goal within the activity of a specific setting. This definition led researchers to describe varieties rather than levels of literacy and to interpret these varieties in terms of associated contexts and purposes. In this way, the types of reading and writing behaviors observed were not attributed to an abstract notion of student ability but were examined in terms of participants' motivations as well as the ambiences of their interactions.

In addition, literacy requirements on the campus were studied in relation to student services, administrative activity, and the constraints of the larger setting in which the college functioned.

## Literacy at Oakwood

As a result of directed and nondirected change during the three-year period of the study, Oakwood Community College expanded its educational missions and increased the size and diversity of its student population. These changes had an effect on the educational program and the campus environment. Literacy within this dynamic institutional setting took on a form which we called "instrumental bitting" because it involved the context-dependent use of bits of written language to accomplish specific objectives. Interestingly, our observations of literacy at Oakwood were consistent with the literacy behaviors described in other education and work settings. (Heath, 1980; Mikulecky and Diehl, 1980; Scribner and Jacob, 1980). However, the findings contradict the commonly held expectation that college literacy should involve the independent comprehension and composition of extended written discourse. To understand why the literacy observed was different from popular conceptions of college literacy, we must consider external influences, institutional responses, the college campus as it is experienced by students, and the effects of those contextual variables on student and faculty behavior in the classroom settings. Oakwood College was part of a district with financial constraints, first in the form of declining percentages of state support of the operating budget, and later in the form of a legislatively mandated limit on increases in property taxes; both of these constraints pervaded the decision-making process.

In addition, a changing and more diverse student clientele placed pressure on educational programs and services designed for a previous clientele much more likely to be full-time, White, middle-class students interested in earning baccalaureate degrees. When the Oakwood study was conducted, the modal student was an older woman taking one course and not interested in earning a degree. In addition, significant numbers of students were underprepared for the literacy demands placed upon them in traditional programs and services.

District administrators responded to and attempted to influence these aspects of institutional environment by establishing priorities for the allocation of human and fiscal resources. The most important priorities for the educational program included recruiting and serving new clientele, improving student retention,

strengthening programs in developmental education, and enhancing and increasing opportunities in occupational education.

Faculty members at Oakwood were predominantly tenured and experienced. They identified strongly with their disciplines, and their goals were associated with transfer programs in a "junior college" environment. Changes in student demographics and in program emphases were difficult for faculty members to accept, and throughout the study, most remained uncommitted to the District's priorities for change.

Each of the administrative priorities had important but largely unrecognized consequences for the types of literacy observed in classroom settings. The priority of recruiting and serving new clientele increased the diversity in student objectives and in reading and writing skills. With more diverse objectives came pressures for adaptations in classroom demands, as faculty and students negotiated their expectations of each other. The emphasis on retention placed pressure on faculty to modify their expectations, especially in regard to reading and writing demands, in order to ensure an acceptable level of student success. The focus on developmental education assigned a priority to students who lacked the reading and writing skills essential to success in the traditional programs. Finally, the administrative emphasis on occupational education promoted a more functional task-specific form of literacy.

The priorities of attracting and serving new clientele and of promoting developmental education continued throughout the study to produce significant resistance from faculty and administrators. These priorities seemed to offer the greatest threat to continuing institutional emphasis on prototypical or symbolic forms of college literacy.

While literacy was affected by administrative strategies for change, it was also influenced by less visible adaptations to the increasing numbers of nontraditional students. Institutional inertia led initially to the development of alternative programs and services designed at least as much to limit the effect of nontraditional students on traditional programs and services as to respond effectively to a new clientele. The existence of special student support services changed many campus literacy demands for students from reading and writing to speaking (primarily questioning) and listening. Special educational programs for nontraditional students focused on teaching reading and writing skills within a highly structured, supportive classroom environment. Special services and programs also recruited effectively and helped nontraditional students to negotiate the mysteries of the registration process and the financial aids office. In addition, the clientele often found these services and programs played advocacy roles with other institutional services or offices.

The creation of special programs as a strategy for institutional adaptation to nontraditional students seemed inadequate because the modal student at Oakwood was nontraditional in age, background, educational goals, and preferred literacy behaviors. Adaptation of all services and programs was required. Since no explicit institutional policy had been developed to guide this adaptation, it occurred implicitly through a process of nondirected change not always preferred or even anticipated by administrators and faculty.

Faculty and staff frequently complained that over the years they had been required to drop literacy demands because of perceived declines in student ability and motivation. The reading and writing observed in both classroom and nonclassroom settings throughout the colleges contrasted with most people's conceptions of college literacy.

Faculty and staff gave the students a great deal of oral guidance for most written language tasks. The amount of independent reading and writing expected of students was reduced to a minimum. In addition, written responses required in classroom settings, in such administrative tasks as registration and admissions, or in using supportive services such as financial aid and career counseling, seldom necessitated that students comprehend or compose extended discourse. Usually reading and writing involved only bits of language and fragmented meanings needed to accomplish specific tasks. This type of language use was called "instrumental bitting" in contrast to a more extensive, holistic, and intrinsically rewarding form of language use termed "texting". Texting was rare at Oakwood; instrumental bitting was the norm.

The predominance of instrumental bitting did not seem surprising in light of the institutional priorities and the characteristics of the students and faculty. Most students were adults whose student role represented only one of a number of significant roles and responsibilities. They enrolled briefly on a part-time basis for specific, often job-related purposes. Since student networking was thin and orientation and advisement activities haphazard, the experience of students on the campus was not likely to promote a stronger rationale for investing large blocks of time in the student role. In classrooms, these students met requirements and/or used specific information, thus contributing to an environment increasingly hostile to those few knowledge seekers who may have wanted to become involved with learning for its own sake. Since little in the experience of the students in the former category caused them to develop or to want to develop texting ability, their dominant presence led to the almost exclusive use of bitting forms of reading and writing in classrooms and other institutional settings. The teaching style of Oakwood faculty also promoted instrumental bitting. Faculty were selected on the basis of extensive training and experience in the content area they taught, but were confronted with students typed as requirement meeters and specific information users. The institution, becuase of the nature of its funding, as well as the time constraints of heavy teaching loads, encouraged instructors to serve as information disseminators, setting specific

knowledge-level objectives for their courses and then making it as easy as possible for students to obtain the bits of information needed to meet course requirements.

Administrators contributed to the deemphasis on prototypical reading and writing. They scheduled staff development sessions to teach faculty alternative approaches to serving students with different learning styles and characteristics. They placed heavy emphasis on mediated instruction and the use of simply written learning objectives tested for lower level cognitive outcomes. Larger class sizes and overload assignments further reduced the time available for reading and evaluating essays or term papers.

## Implications of the Study

Studies of literacy in secondary schools, job settings, and homes all seem to indicate that instrumental bitting is a societal phenomenon typifying language use in most areas of an average adult's life. (Heath, 1979; Jacob and Crandall, 1979). The community colleges' priority to meet societal needs for both philosophic and economic reasons causes them to mirror societal trends in language use. The effort "to be all things to all people" has produced a curriculum incorporating virtually all facets of human knowledge for which there is any demand for a structured learning experience. The literacy behaviors expected of a nonselective clientele cannot differ too markedly from those prevailing in the larger society without discouraging students who are needed to finance the enterprise.

There is, of course, nothing wrong with offering people what they want in a convenient and easily accessible format. But choices must be made when resources are scarce, and the nature of these choices has important implications for the future of community colleges and those they serve.

A continuing emphasis on instrumental bitting to the exclusion of prototypical texting may increase the problems experienced by students transferring to four-year colleges and universities, the gate keepers for higher status occupations. A concern about this possibility caused the Commission on the Higher Education of Minorities (1982) to recommend the establishment of a college within a college to preserve some of the characteristics of more traditional learning experiences. Reducing the differences between college and community, as some advocates of community-based learning centers and lifelong learning recommend, may prove counterproductive in terms of the responsibility of the community college to facilitate upward social mobility.

At the same time, there is some evidence to suggest that different expectations for literacy behaviors in the community college may contribute to successful attainment of baccalaureate degrees by some students with academic high school backgrounds. (Breneman and Nelson, 1981 p. 74). The prevalence of instrumental bitting and the relative absence of requirements for reading- or writing-connected discourse may make it possible for highly motivated students with deficiencies in academic preparations, as measured by their performances on standardized examinations, to bypass lower division university courses where reading and writing abilities may be viewed as ends in themselves.

Schools can teach traditional texting forms of reading and writing to relatively homogeneous groups of students, or they can offer a broad range of content to extremely diverse clientele through efficient instrumental bitting procedures. The evidence to date suggests they cannot do both and preserve the individual performance standards characteristic of an earlier era with a less cluttered curriculum. The presence of large numbers of nontraditional students whose objectives extend only to meeting minimum requirements for discrete courses or to obtaining needed information as efficiently as possible, led to unanticipated and perhaps unwanted adaptations in activities and demands characterizing the learning environment at Oakwood.

Before community colleges commit themselves to concepts and clientele that may prove incompatible with traditional concepts of access and upward mobility, they urgently need to research the relationships between forms of literacy and other valued outcomes including cognitive development, knowledge acquisition, learning style, and social status. The choice of emphasis in the classroom between traditional forms of reading and writing and efficiency of information transfer through instrumental bitting is ultimately a matter for public policy. We would argue that the decision should be guided by knowledge of cause and effect and should not occur by default.

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